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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/592,254	06/12/2000	Stefano Turri	108910-00009	4851

7590 07/28/2005

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EXAMINER	
OH, TAYLOR V	

ART UNIT	PAPER NUMBER
1625	

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/592,254	TURRI ET AL.	
	Examiner	Art Unit	
	Taylor Victor Oh	1625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/21/05 has been entered.

The Status of Claims:

Claims 17-41 are pending.

Claims 17-41 have been rejected.

Detailed Action

1. It is noted that applicants have satisfied the requirement of 35 USC 119 by filing priority document, Italy M199 A 001303 , June 11, 1999.

Drawings

2. None.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 17-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 17, the phrase " an alkylic chain containing from 1 to 8 carbon atoms" is recited. This expression of the term " containing" is vague and confusing. The meaning of "an alkylic chain containing from 1 to 8 carbon atoms " would mean that there are some additional components besides "1 to 8 carbon atoms ". This term " containing " leaves the claim open for the inclusion of unspecified components. Furthermore, it is well-settled that the terms comprising and containing do not exclude the presence of other ingredients than the one recited. Exparte Muench, 79 USPQ 92 (PTO Bd. App. 1948). Therefore, an appropriate correction is required.

In claim 36, the phrase "are of the $HO(CH_2CH_2O)_{x0}CH_2$- type" is recited. This expression of the term " type" is vague and confusing because the specification does not elaborate what is meant by the term "type of the

phrase"the $HO(CH_2CH_2O)_{x0}CH_2$- type". Therefore, an appropriate correction is required.

In claim 38, the phrase " said (per)fluoropolyethers comprise one or more (per)fluorooxyalkylene units" is recited. This expression of the term " comprise" is vague and confusing. The meaning of "said (per)fluoropolyethers comprise one or more (per)fluorooxyalkylene units" would mean that there are some additional components besides "one or more (per)fluorooxyalkylene units ". This term " comprise " leaves the claim open for the inclusion of unspecified components. Furthermore, it is well-settled that the terms comprising and containing do not exclude the presence of other ingredients than the one recited. Exparte Muench, 79 USPQ 92 (PTO Bd. App. 1948). Therefore, an appropriate correction is required.

In claim 40, the phrase " Q can optionally contain heteroatoms, N,O,S,or carbonylimino, sulphonylimino, or carbonyl groups" is recited. This expression of the term " contain " is vague and confusing. The meaning of "Q can optionally contain " would mean that there are some additional components besides "heteroatoms, N, O, S, or carbonylimino, sulphonylimino, or carbonyl groups ". This term " contain " leaves the claim open for the inclusion of unspecified components. Furthermore, it is well-settled that the terms comprising and containing do not exclude the presence of other ingredients than the one recited. Exparte Muench, 79 USPQ 92 (PTO Bd. App. 1948). Therefore, an appropriate correction is required.

In claim 40, the chemical formula "$(R_{fl})_{pl}Q=OH$ (e')" is recited. There is a double bond between the "Q" and "OH" in the formula. However, this expression is vague and indefinite because the specification (see 11, line 13) describes the chemical formula for (e') as $(R_{fl})_{pl}Q-OH$,wherein there is only a single bond instead of the double bond. Therefore, an appropriate correction is required.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 17, 32-38, and 40-41 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3, 5-10, 12-13, and 27 of U.S. Patent No. 6,579,835. Although the conflicting claims are not identical, they are not patentably distinct from each other because U.S. Patent No. 6,579,835 discloses the following claims similar to the current invention:

1. A process for dry fabrication of rubbers, plastics, metals, and glass materials, comprising applying to said materials a coating of thermally crosslinkable fluorinated polyurethanes, thermally crosslinkable, obtainable from aqueous dispersions of cationic oligourethanes based on branched and thermocrosslinkable (per)fluoropolyethers, said cationic oligourethanes having a number average molecular weight lower than or equal to 9,000, determined by vapour pressure osmometry and formed by the following monomers and macromers:

a) aliphatic, cycloaliphatic or aromatic polyisocyanates, having NCO functionality, determined by titration with dibutylamine-HCl according to ASTM D2572, higher than 2;

b) bifunctional hydrogenated monomers having the two functions chemically different from each other having the general formula:

$$X_a-(CR_1^AR_2^A)_b-Y_B \qquad (Ib)$$

wherein:

R_1^A and R_2^A, equal to or different from each other, are H, aliphatic radicals from 1 to 10 carbon atoms, b is an integer in the range 1-20, $X_a=X_AH$ with $X_A=O, S$, Y_B is a salifiable, anionic or cationic function, when in the formula (Ib) $X_a=OH$, b=1, $R_1^A=R_2^A=H$ and Y_B is a hydrophilic group having formula

$$-CH_2O-(CH_2-CH_2O)_{nY}-CH_3 \qquad (Ib1)$$

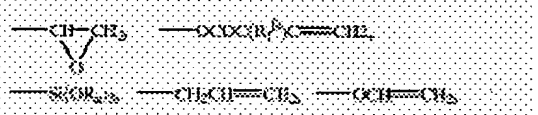
wherein nY is an integer in the range 3-20;

and one or more of the following compounds:

c) bifunctional hydroxylated (per)fluoropolyethers having number average molecular weights in the range 400-3,000;

e) monofunctional hydroxyl or carboxylic (per) fluoropolyethers (e^a) or monofunctional hydroxyl (per) fluoroalkanes (e'), said compounds (e^a) and (e') having number average molecular weight in the range 300-1,000; and optionally the following compounds:

d) hydrogenated monomers with which it is possible to insert a crosslinkable chemical function in the oligourethane, said monomers having formula (Ib), wherein R_2^A, R_2^A, b and X_b are as above and Y_b is selected from the following functional groups:



wherein

R_2^B=H, CH_3;

R_2 is a C_1-C_{18} saturated alkyl;

d^b) hydrogen-active compounds, able to form with the NCO functions bonds which are stable to hydrolysis but thermolabile, said compounds known as blocking agents of the NCO group.

3. The process according to claim 1, wherein the amounts of the components are the following:

component a) polyisocyanate: 10-70% by weight based on the total of the dry oligourethane;

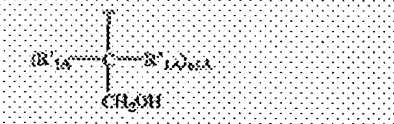
component b) ionic heterofunctional hydrogenated monomer: the amount by weight based on the total of the dry oligourethane is calculated in connection with the molecular weight of the monomer, taking into account that the moles of component b) are in a ratio with the moles of the NCO groups of component a) comprised between 1/3:1 and 2/3:1;

component c) PFPE diol: the amount by weight is in connection with the molecular weight of the macromer c), taking into account that the moles of the hydroxyl groups of component c) are in a ratio with the moles of the residual free NCO groups comprised between 3 and 1:1; component c) can also be absent, and in this case component e) is present;

when c) is absent, the total amount by moles of components e)+d)+d^b) is in a 1:1 ratio with the residual NCO moles, and component e) must be present in an amount of at least 30% by weight based on the dry product;

when component c) is present in the formulation, the total moles of the components d+d^b+c, are in a percentage comprised between 0 and 90%, with respect to the moles of component b).

5. The process according to claim 1, wherein the heterofunctional hydrogenated monomers indicated in b) wherein in the X_AH function X_A=O, have the following formula of structure:



(1A)

wherein T is SO_3H, COOH, or a tertiary amino group $NR'_AR''_A$, wherein R'_A and R''_A, equal or different, are linear or branched C_1–C_6-alkyl; R'_{1A} and R''_{1A}, equal or different, are hydrogen or linear or branched C_1–C_4 alkyl; n1A is an integer in the range 1–10.

6. The process according to claim 5, wherein in the monomers b) of formula (1A) T is a tertiary amino group.

7. The process according to claim 1, wherein the bifunctional (per)fluoropolyethers indicated in c) have one or more of the following units statistically distributed along the chain: (C_3F_6O), (CFYO) wherein Y is F or CF_3, (C_2F_4O), $(CR_1R_2CF_2CF_2O)$ wherein R_1 and R_2 are equal to or different from each other and selected from H, Cl, and a fluorine atom of the perfluoromethylene unit optionally substituted with H, Cl or (per)fluoroalkyl, having from 1 to 4 carbon atoms.

8. The process according to claim 7, wherein the compounds c) are the following with the perfluorooxyalkylene units statistically distributed along the chain:

a^5) —$(C_3F_6O)_{m'}(CFYO)_{n'}$—

wherein the units (C_3F_6O) and (CFYO) are perfluorooxyalkylene units statistically distributed along the chain; m' and n' are integers to give the above mentioned molecular weights, and m'/n' is in the range 5 and 40, n' being different from 0; Y is F or CF_3; n' can also be 0;

b^5) —$(C_2F_4O)_{p'}(CFYO)_{q'}$—$(C_3F_6O)_{r'}$—

wherein p' and q' are integers such that p'/q' ranges from 5 to 0.3, to give a molecular weight within the above indicated limits; r' is an integer with the meaning of m', Y=F or CF_3; r' is 0 and q'/(q'+p'+r') is equal to 1/10 or lower and the r'/p' ratio ranges from 0.2 to 6;

C^5) —$CR_1R_2CF_2CF_2O$—

wherein R^1 and R^2 are equal to or different from each other and selected from H, Cl; the molecular weight such to be within the above limits, and a fluorine atom of the perfluoromethylene unit optionally substituted with H, Cl or (per)fluoroalkyl, having from 1 to 4 carbon atoms; the end groups of the bifunctional (per)fluoropolyethers c), said end groups being equal to or different from each other, are $HO(CH_2CH_2O)_{n0}CH_2$— wherein n0 is an integer in the range 0–4.

9. The process according to claim 1, wherein the heterofunctional monomers indicated in d) have the same formula (1A) of the component b), wherein R_{1A}, R''_{1A} and n1A are as above defined and T is selected from the groups that in component d) are at the place of the Y_0 function, the OH group of the formula 1A is optionally substituted with a SH group.

10. The process according to claim 1, wherein the component e) is formed by monofunctional hydroxyl or carboxylic (per)fluoropolyethers (e^0), comprising one or more of the (per)fluorooxyalkylene units above indicated for the PEPE diol component e).

12. The process according to claim 1, wherein component e) is formed by monofunctional hydroxyl (per)fluoroalkanes (e') having the formula:

$$(R_{fe})_{pl}-Q-OH \qquad (e')$$

wherein:

R_{fe} is a C_3-C_{30} fluoroalkyl radical;

pl is 1 or 2;

Q is a bivalent C_1-C_{12} aliphatic or C_6-C_{12} aromatic linking bridge; Q optionally contains heteroatoms such as N, O, S, or carbonylimino, sulphonylimino or carbonyl groups; Q is non-substituted or it is linked to substituents selected from the following:

halogen atoms, hydroxyl groups, C_1-C_5 alkyl radicals.

13. The process according to claim 1, wherein the oligourethanes have number average molecular weight in the range 2,000-5000, determined by vapour pressure osmometry VPO.

27. The process according to claim 1, wherein the blocking agents of the NCO group are selected from the group consisting of ketoximes, phenols, mono- and di-alkyl substituted phenols wherein the alkyl chain contains from 1 to 8 carbon atoms, pyrazol, caprolactam, ethylmalonate, acetylacetone, and ethylacetoacetate.

However, the instant invention differs from the prior art in that the claim 17 of the claimed invention is directed to the method to form films having hydro and oil repellant properties on the surface of objects.

With respect to the claimed method to form films having hydro and oil repellant properties on the surface of objects, the claim 1 of the prior art does describe the

process of applying a coating of polyfluorinated polyurethanes containing oligourethanes to the various objects; from this, the coating can be interpreted as a synonym for films and the function of the coating is to protect the object from water and oil absorption ; furthermore, the specification supports this conception with a disclosure that the dry lubricant coating layer has properties of a high adhesion to the treated surface and a high resistance to water absorption (see col. 2 ,lines 10-18). Therefore, it would have been obvious to the skilled artisan in the art to be motivated to add the water and oil repellant properties to the claims in order to accentuate the particular aspects of the claimed coating method because the skilled artisan in the art would expect such a modification to be successful and applicable to the claimed invention as the teachings (see col. 2 ,lines 10-18) shown in the prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taylor Victor Oh whose telephone number is 571-272-0689. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang can be reached on 571-272-0562. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*** 7/14/05